

Notice of Allowability

Application No.

09/752,133

Examiner

CHAMELI C DAS

Applicant(s)

NEIGER ET AL.

Art Unit

2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to the RCE filed on 6/4/04.
2. ☒ The allowed claim(s) is/are 1-30.
3. ☒ The drawings filed on 27 December 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 10/26/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 10/26/04
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

1. This action is in response to the RCE filed on 6/4/2004.
2. Claims 1-30 have been allowed.

EXAMINER'S AMENDMENT

3 An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Portnova, applicant's attorney on 10/26/04.

The application has been amended as follows:

In specification, on page 2, line 23, "Figures 10A and B" has been replaced by
Figures 10A and 10B --.

In Claims:

In claim 14, line 5, after "data structure", "to contain data derived from" has been replaced by -- having content that is periodically modified to conform to-- .

In claim 24, line 4, after "data structure", "deriving content from content of the guest translation data structure and" has been deleted.

In claim 24, line 5, after "(VMM)", -- the VMM periodically modifying content of the active translation data structure to conform to content of the guest translation data structure -- has been inserted.

REASON FOR ALLOWANCE

4. The following is an examiner's statement of reason for allowance:

The cited prior art taken alone or in combination fail to teach, in combination with the other claimed limitations, the method for creating an active translation data structure based on the guest translation data structure, the guest translation data structure being managed by a guest operating system, the active translation data structure being managed by a virtual machine monitor; and periodically modifying content of the active translation data structure to conform to content of the guest translation data structure, the content of the active translation data structure being used by a processor to cache address translations in a translation-lookaside buffer, as recited in the independent claims 1, 14, 24 and 28.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments of Statement of Reason for Allowance".

Conclusion

5. The prior art made or record and not relied upon is considered pertinent to applicant's disclosure.

TITLE: Effective-to-real address cache managing apparatus and method, US 6021481.

TITLE: Data processing control of second-level quest virtual machines without host intervention, US 5381535 A

TITLE: Apparatus and method for providing private and shared access to host address and data spaces by guest programs in a virtual machine computer system, US 5230069

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TITLE: Virtual machine system with guest architecture emulation using hardware TLB's for plural level address translations, US 4456954 A

TITLE: Content-based, transparent sharing of memory units, US 6789156 B1.

TITLE: Computer system including a novel address translation mechanism, US 6446189 B1

TITLE: Translation lookaside buffer flush filter, US 6510508 B1

TITLE: Architectural Support for Translation Table Management in Large Address Space Machine, author: Huck et al, ACM, May 1993.

TITLE: Eliminating the Address Translation Bottleneck for Physical Address Cache, author: Chiuch et al, ACM, 1992.

TITLE: Disco: Running Commodity Operating Systems on Scalable Multiprocessors, author: Bugnion et al, ACM, October 1997.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chameli Das whose telephone number is 703-305-1339.

The examiner can normally be reached on Monday-Friday from 7:00 A.M. to 3:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Tuan Dam can be reached at 703-305-4552. The fax number for this group is (703) 872-9306.

After October 28, 2004, the examiner can be reached at new telephone number (571) 272-3696, and the examiner's supervisor Tuan Dam can be reached at (571) 272-3695.

An inquiry of general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is 703-305-9600.

Chameli C. Das
CHAMELI C. DAS
PRIMARY EXAMINER

10/26/04